SUSTAINABLE ECOLOGICAL AQUACULTURE, B.S.

Contact

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Mission

The mission of the School of Marine and Environmental Programs at the University of New England is to help our students gain an understanding of the natural world, develop critical thinking skills, and become scientifically literate. Together, we lay a foundation for lifelong learning and meaningful contributions to society and offer a baccalaureate education to students interested in all facets of the marine environment.

Our programs encompass a wide variety of disciplines that seek to understand the way the ocean functions, how it is related to earth systems science, and how humans interact with the environment. Students will learn theoretical underpinnings and applications of disciplines from biology to chemistry, geology, and physics. These disciplines are critical to life as we know it on the planet. Students will be able to apply these disciplines to solving real problems encountered in coastal and marine ecosystems and by the human communities that depend on them.

Major Description

The Sustainable Ecological Aquaculture Program is designed to give students the knowledge and unique skills needed to culture organisms in the nearshore coastal environment for food or restoration with special emphasis on sustainability and with the understanding of societal values, needs, and policies.

Transfer Credit

See Undergraduate Admissions (https://catalog.une.edu/undergraduate/admissions/) for more information.

Admissions

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Financial Information

Tuition and fees for subsequent years may vary. Other expenses include books and housing. For more tuition and fee information, please consult this catalog's Financial Information (https://catalog.une.edu/undergraduate/financial-information-undergraduate-programs/) section.

Curricular Requirements

Code	Title	Hours
Nor'easter Core Requirements		
Nor'easter Core Requirements (https://catalog.une.edu/undergraduate/core-curriculum/)		
Program Required Courses		
BUMG 313	Social Innovation and Entrepreneurship	3
or BUMK 312	Entrepreneurship/Small Business Management	
Select one of the following:		4
CHE 110 & 110L	General Chemistry I and General Chemistry I Lab	
CHE 111 & 111L	General Chemistry II and General Chemistry II Lab	
CHE 115 & 115L	Chemistry of Nature and Chemistry of Nature Lab	
CHE 130 & 130L	Principles of Chemistry and Principles of Chemistry Lab	
CHE 150 & 150L	University General Chemistry I and University General Chemistry I Lab	
CHE 151 & 151L	University General Chemistry II and University General Chemistry II Lab	
GIS 161	GIS I: Fundamentals of Geospatial Science and Technology	3
MAF 315	US Aquaculture Policy and Management	3
MAR 105 & 105L	Ecology and Evolution of Marine Organisms and Eco/Evo of Mar Organisms Lab	4
MAR 106 & 106L	Cellular and Molecular Biology of Marine Organisms and Cell/Molec Bio/Marine Orgs Lab	4
MAR 221	Principles of Aquaculture	3
MAR 150 & 150L	Discovering the Ocean Environment and Discovering the Ocean Environment Lab	4
or MAR 270 & 270L	Oceanography and Oceanography Lab	
MAR 222 & 222L	Finfish/Shellfish Culture Tech and Finfish/Shellfish Culture Tech Lab	4
MAR 223 & 223L	Health, Nutrition, Feeding Cultured Organisms and Health, Nutrition, Feeding Cultured Organisms Lab	4
MAR 235	Sustainable Harvest of Aquatic Organisms	3
MAR 250 & 250L	Marine Biology and Marine Biology Lab	4
MAR 315	Systems Thinking (World Problems)	3
MAR 427	Ocean Aquaculture Design and Operation	3
MAR 445	Social Ecological Aquaculture	3
MAR 495	Adv Marine Science Internship	4
or MAR 410	Marine Science Research	
MAT 150	Statistics for Life Sciences	3
or MAT 151	Statistics for Environmental Sciences	
Six credits of program-specific electives		6
Open Elective Courses (Students complete open elective credits as necessary to meet the University's 120-credit minimum for graduation. The total number of elective credits required will depend on the student's completed program, core, and other degree requirements.)		55
Total Hours		**120**

Program-Specific Electives

Code	Title	Hours
ENV 220	Conservation and Preservation	3
ENV 215	Field Methods in Conservation	3
ENV 240	Env Sustainability Lab	2
ENV 250	Envir Policy Compar Perspect	3

ENV 261	Gulf of Maine Field Studies I	1.5
ENV 262	Gulf of Maine Field Studies II	1.5
ENV 309	(Sustainability & Eco Restor)	3
ENV 311 & 311L	Ecological Monitoring and Ecological Monitoring Lab	4
ENV 328	(Env Pollution: Widlife/Hum Hlth)	3
ENV 365	Climate Change Adaptation	3
MAR 305 & 305L	Aquatic Health Management and Aquatic Health Management Lab	4
MAR 350 & 350L	Marine Ecology and Marine Ecology Lab	4

Please note: While some courses can fulfill both core and program requirements, the credits earned do not count twice towards the minimum total required credits for the degree.

Graduation Requirements

A minimum grade of C- must be achieved in all science, mathematics, and Marine Affairs courses used toward graduation in any of the programs in the School of Marine and Environmental Programs. A 2.00 cumulative average in sciences is a requirement for graduation in any of the programs in the School of Marine and Environmental Programs.

Program Completion Timeline

Students have a maximum of seven years to complete the graduation requirements

Learning Outcomes

- Explain fundamental principles of ocean-based aquaculture and aquaculture-based food systems, including relevant connections to society, economy, conservation, animal welfare, and the environment.
- Apply knowledge to the design, development, and operation of aquatic life support systems and to the husbandry and health of the organisms housed in these systems.
- Communicate aquaculture to a variety of audiences - such as policy makers, resource managers, industry members, academics, researchers, NGOs, consumers and other stakeholders.